

PCT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 016499-705	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 99/ 14782	International filing date (day/month/year) 30/06/1999	(Earliest) Priority Date (day/month/year) 30/06/1998
Applicant L'AIR LIQUIDE, SOCIETE ANONYME POUR...et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 03 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

ON BOARD INERT GAS GENERATING SYSTEM USING MULTIPLE AIR SEPARATION MODULES HAVING DIFFERENT PERMEABILITY AND SELECTIVITY MEMBRANES.

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B64D37/32 A62C2/08 . B01D53/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B64D A62C B60K B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 013 331 A (EDWARDS DONALD W ET AL) 7 May 1991 (1991-05-07) cited in the application	1-3, 11, 13, 14, 16, 17, 22, 24, 25, 29, 30
Y	abstract figures 1-13 column 1, line 1 - line 35 column 1, line 66 - column 2, line 65 column 5, line 62 - column 7, line 56 column 8, line 66 - column 9, line 19 column 10, line 25 - column 12, line 17 --- -/--	4, 5, 7, 8, 12, 15, 16, 18, 19, 26

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

10 December 1999

Date of mailing of the international search report

30/12/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentkan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Calvo de Nõ, R

INTERNATIONAL SEARCH REPORT

International Application No

PCI, US 99/14782

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DORNHEIM M A: "AIRLINE INDUSTRY TAKES FRESH LOOK AT INERTING" AVIATION WEEK AND SPACE TECHNOLOGY, US, MCGRAW-HILL INC. NEW YORK, vol. 147, no. 2, page 60-61 XP000699956 ISSN: 0005-2175	4, 5, 7, 8, 12, 15, 16, 18, 19, 26
A	page 60, column 2, paragraph 1	1-3, 6, 11, 13, 14, 22
	page 60, column 3, paragraph 5 -page 61, last paragraph	
A	CLODFELTER ROBERT G: "THE EVOLUTION OF ON-BOARD INERT GAS GENERATION SYSTEMS (OBIGGS)" PROCEEDINGS OF THE 27TH ANNUAL SYMPOSIUM OF SAFE ASSOCIATION, 5 - 8 December 1989, pages 19-24, XP002122565 New Orleans, LA, USA the whole document	1-5, 11, 14-16, 22, 25, 26
A	FR 2 264 566 A (INTERTECHNIQUE SA) 17 October 1975 (1975-10-17)	1-5, 9-11, 13-17, 20-22, 24-28
	page 1, line 1 -page 3, line 32 page 5, line 2 - line 22 page 6, line 23 - line 32 page 8, line 20 -page 9, line 5 page 10, line 40 -page 11, line 31	
A	US 4 378 920 A (RUNNELS JOE N ET AL) 5 April 1983 (1983-04-05)	1-3, 11, 13, 14, 17, 22, 24, 25
	the whole document	
A	US 4 397 661 A (KING DUANE E ET AL) 9 August 1983 (1983-08-09) abstract column 1, line 42 -column 2, line 12 column 2, line 44 -column 4, line 41	1, 14, 25

INTERNATIONAL SEARCH REPORT

Inform. on patent family members

International Application No

PCT/US 99/14782

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5013331 A	07-05-1991	CA 2020178 A	31-12-1990
		DE 69007181 D	14-04-1994
		DE 69007181 T	06-10-1994
		EP 0405597 A	02-01-1991
		JP 3038222 A	19-02-1991
FR 2264566 A	17-10-1975	NONE	
US 4378920 A	05-04-1983	NONE	
US 4397661 A	09-08-1983	AU 7219781 A	07-01-1982
		BR 8104071 A	16-03-1982
		EP 0043231 A	06-01-1982
		JP 57038903 A	03-03-1982
		ZA 8104365 A	27-10-1982